ABSTRACT

BACKGROUND & OBJECTIVES

Dental caries is an infectious microbial disease and mostly appears as a chronic disease. The rate of occlusal surface caries in children is 12.5% especially 90% seen in occlusal pit and fissures. Sealants forms a micromechanically bonded protective layer that prevents the invasion of caries producing bacteria, cuts off the access to nutrients. Many studies have evaluated the effectiveness of sealants in normal molars, very few studies have tested the retentiveness in the fluorosed molars. Thus, study was designed to evaluate the retention and longevity of two non-fluoridated pit and fissure sealants HELIOSEAL and FISSURIT placed with and without use of bonding agents in young permanent molar affected by dental fluorosis at various intervals.

METHODS

After fulfillment of inclusion criteria, 45 Children were selected from the age group of 7-13 years of either gender and prior written informed consent were obtained. With split-mouth design, routine clinical procedure for fissure sealant application were followed with modification of increase in etching time to 35–40 sec for all the group. Helioseal sealant (Group IA & IB) was placed in the occlusal pits and fissures on the right side of all patients and Fissurit sealant (Group IIA & IIB) was placed on the left side. The sealants were randomly placed on the either sides.

Clinically retention rates were evaluated using the evaluation criteria given by Mascarenhas et al (2008) at recall intervals of 1 week and 1, 3, 6 and 12 months, tabulated and were subjected to statistical analysis with Mann–Whitney U test.

RESULTS

HELIOSEAL (Group-IB) without bonding agent showed the higher retention rate when compared to HELIOSEAL (Group-IA) with bonding agent, as well FISSURIT (Group-IIB) without bonding agent showed the higher retention rate when compared to FISSURIT (Group-IIA) with bonding agent revealed better retentiveness after 6 and 12 months was not statistically significant. But on comparing the retention rates of with and without bonding agent application of HELIOSEAL and FISSURIT, FISSURIT revealed better retentiveness after 3, 6 and 12 months which was not statistically significant.

INTERPRETATION & CONCLUSION:

Though not contraindicated, considering the extra time and cost needed and the inconclusive importance in retention, routine use of bonding agent as part of the sealant application technique is not recommended. Further studies with more sample size will be required to study the efficacy and retentiveness of these fissure sealants on fluorosed molars.

KEYWORDS

Pit and fissure sealants, Bonding agent, Fluorosed molars, Helioseal, Fissurit, Retention rate, Non-fluoridated Pit and fissure sealants.